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EXAMINER

LIN, KENNY S

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/904,566	Applicant(s) JOON-BO ET AL.	
	Examiner Kenny Lin	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-14 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-14 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The following terms lack proper antecedence basis:

- i. Claim 10, line 1 and 13 – “step (d)” (i.e., do you mean “step (c)”)? Step (d) does not exist in claim 8).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

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do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-2, 7-9 and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Ying, US 6,061,600.

6. Ying was cited in the previous office action.

7. As per claim 14, Ying taught the invention as claimed including a method for establishing a connection between a new master and a remaining plurality of slaves of a network when a preexisting network master disappears, the method comprising the steps of:

- a. Checking whether the preexisting network master has disappeared (col.2, lines 48-51, col.7, lines 5-23, 35-49, col.10, lines 50-65);
- b. Checking backup master rank information, when it is determined that the preexisting network master has disappeared in the step a. (col.2, lines 44-62, col.7, lines 35-49, col.10, lines 50-67, col.11, lines 1-30, 51-58).
- c. Attempting to establish a connection with the new network master when it is determined that one of the remaining plurality of slaves does not have a highest priority, according to the backup master rank information (col.2, lines 37-39,

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col.7, lines 39-49, col.9, lines 6-22, 43-48, col.10, lines 15-23, 36-43, 54-62,
col.11, lines 1-9, 24-58); and

- d. Remaining as one of the remaining plurality of slaves if a connection with the new network master is established in step c. (col.7, lines 39-49, col.11, lines 1-9, col.12, lines 38-42).

Claim Rejections - 35 USC § 103

- 8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 9. Claims 1-2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Tuijn et al (van der Tuijn), US 6,683,886, in view of Ying, US 6,061,600.

- 10. As per claim 1, van der Tuijn taught the invention substantially as claimed including a method for building up backup master information, comprising the steps of:

- a. Receiving connection information from at least one of a plurality of slaves in a network (col.7, lines 36-45; coupling and decoupling of the connection);
- b. Determining a priority according to the received connection information (col.7, lines 36-50; priority is determined base on the coupling and decoupling of the connections); and

- c. Announcing the determined priority to at least another one of the plurality of slaves (col.7, lines 53-55; priorities of existing links and new links are reordered).

11. van der Tuijn did not specifically teach that the priority is determined for at least one of the plurality of slaves to be used as a backup master when a network master disappears. Ying taught to use a determined priority to choose a backup master when the network master disappears (col.2, lines 44-62, col.7, lines 35-49, col.10, lines 50-67, col.11, lines 1-30, 51-58). Although the method of setting up priorities in van der Tuijn and Ying are different, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of van der Tuijn and Ying by using van der Tuijn's priority determination method to determine a backup master ranking. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of van der Tuijn and Ying because Ying's teaching of determining a backup master using predetermined priority provide system recovering from a failure of the master (col.2, lines 34-43).

12. As per claim 2, van der Tuijn and Ying taught the invention substantially as claimed in claim 1. van der Tuijn further taught that the steps a. through c. are repeated in a predetermined cycle (col.7, lines 36-55; new connection coupled).

13. As per claim 7, van der Tuijn and Ying taught the invention substantially as claimed in claim 1. Ying further taught that in the step c., the determined priority of the backup master is

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announced to the at least another one of the plurality of slaves, through a broadcasting channel (col.2, lines 44-58, col.8, lines 35-39, col.9, lines 31-38, col.11, lines 24-35).

14. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over van der Tuijn and Ying as applied to claims 1 above, and further in view of Erikson et al (Erekson), US 6,836,862.

15. Erikson was cited in the previous office action.

16. As per claim 3, van der Tuijn and Ying taught the invention substantially as claimed in claim 1. van der Tuijn further taught that the received connection information includes link quality information (col.7, lines 36-47). Van der Tuijn and Ying did not specifically teach that the received connection information includes received signal strength indication. Erikson taught a network of devices acting as master and slaves using signal strength indication wherein the devices are equipped with a receiver signal strength indicator that can be used to measure the strength of the incoming signal (col.2, lines 16-21, col.3, lines 37-42, col.5, lines 31-41). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of van der Tuijn, Ying and Erikson because Erikson's teaching of using received signal strength indication enables van der Tuijn and Ying's method to support devices used for voice applications to measure the strength of the incoming signal (see Erikson, col.2, lines 16-19).

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17. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over van der Tuijn, Ying and Erikson as applied to claim 3 above, and further in view of "Official Notice".

18. As per claim 4, van der Tuijn, Ying and Erikson taught the invention substantially as claimed in claim 1. Erikson further taught to use receiver strength indicator to measure the strength of the incoming signal (col.2, lines 16-19). van der Tuijn, Ying and Erikson did not specifically teach that in the step b., if said at least one of the plurality of slaves has a higher RSSI than another one of the plurality of slaves, said at least one of the plurality of slaves is given a higher priority, which is used to choose a new network master. However, Official Notice is taken that the limitations narrowed by this claim are consider obvious and furthermore a matter of design choice in determining the ranking of the priority values. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of van der Tuijn, Ying, Erikson and various methods and calculations in determining and deciding the ranking of the priority of the plurality of slaves in van der Tuijn, Ying and Erikson's method.

19. As per claim 5, van der Tuijn, Ying and Erikson taught the invention substantially as claimed in claim 1. van der Tuijn, Ying and Erikson did not specifically teach that in the step b., if said at least one of the plurality of slaves has a higher link quality value than another one of the plurality of slaves, said at least one of the plurality of slaves is given a higher priority, which is used to choose a new network master. However, Official Notice is taken that the limitations narrowed by this claim are consider obvious and furthermore a matter of design choice in

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determining the ranking of the priority values. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of van der Tuijn, Ying, Erikson and various methods and calculations in determining and deciding the ranking of the priority of the plurality of slaves in van der Tuijn, Ying and Erikson's method.

20. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over van der Tuijn and Ying as applied to claims 1 above, and further in view of "Official Notice".

21. As per claim 6, van der Tuijn and Ying taught the invention substantially as claimed in claim 1. van der Tuijn and Ying did not specifically teach that the network is a personal ad-hoc network. However, Official Notice is taken that the limitations narrowed by this claim are consider obvious and furthermore a matter of design choice of implementing the invention in various types of networks. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of van der Tuijn and Ying and further implement van der Tuijn and Ying's method in all suitable and desired networks.

22. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over, Ying, US 6,061,600, in view of van der Tuijn et al (van der Tuijn), US 6,683,886.

23. As per claim 8, Ying taught the invention substantially as claimed including a method for designating a new master of a network when a preexisting network master disappears, the method comprising the steps of:

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- a. Determining at a slave whether the preexisting network master has disappeared (col.2, lines 48-51, col.7, lines 5-23, 35-49, col.10, lines 50-65);
- b. If the preexisting network master has disappeared, checking a rank assigned to the slave, wherein the rank is used to choosing a new network master and is received before the disappearance of the preexisting network master (col.2, lines 44-62, col.7, lines 35-49, col.10, lines 50-67, col.11, lines 1-30, 51-58); and
- c. Changing the slave to the new network master if it is determined that the rank is highest of any one assigned to a plurality of slaves (col.2, lines 48-62, col.7, lines 35-49, col.10, lines 50-65, col.11, lines 24-58).

24. Ying did not specifically teach that the rank assignment is based on connection information received from the slave. Van der Tuijn taught a method to determine slave priority by using connection information received from the slaves (col.7, lines 36-55; determine priority based coupling and decoupling of slaves). Although the method of setting up priorities in Ying and van der Tuijn are different, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ying and van der Tuijn by using van der Tuijn's priority determination method to determine slave ranking and determine a backup master when master disappears. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ying and van der Tuijn because van der Tuijn's teaching of determining slaves priority ranking based on slaves coupling and decoupling enables Ying's method to reorder the rankings of the slaves when new slaves connect to the master (col.7, lines 36-55).

25. As per claim 9, Ying and van der Tuijn taught the invention substantially as claimed in claim 8. Ying further taught that after the step c., further comprising the step d. of performing inquiry scan and page scan (col.2, lines 37-39, col.9, lines 6-22, col.10, lines 15-23, 54-62, col.11, lines 24-58).

26. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ying, van der Tuijn as applied to claim 8 above, and further in view of Akyol et al (Akyol), US 6,701,448 and "Official Notice".

27. Akyol was cited in the previous office action/

28. As per claim 10, Ying and van der Tuijn taught the invention substantially as claimed in claim 8. Ying further taught to check for a change of a master mode and terminating the master mode when a change to the master mode is determined (col.2, lines 37-39, col.3, lines 15-20, col.7, lines 39-49, col.9, lines 6-22, 43-48, col.10, lines 15-23, 36-43, 54-62, col.11, lines 1-9, 24-58). Ying and van der Tuijn did not specifically teach that after step d., further comprising the steps of e-g. Akyol taught a backup master designating method to:

e. determining whether a new device attempts to establish a connection through the network (col.7, lines 18-35);

f. accepting a request of the new device for connection, requesting the new device to change to a role as a slave, and remaining as the new network master (col.7, lines 21-35);

g. storing information of the new device, and announcing the information of the new network master and each of the plurality of slaves linked throughout the network, to each of the plurality of slaves linked throughout the network (col.6, lines 51-55, 60-67, col.7, lines 5-8).

29. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ying van der Tuijn and Akyol because Akyol's teaching of responding to requests for new devices to join the group enables more devices in Ying and van der Tuijn's method to join or connect with the master node to expand the group. Ying, van der Tuijn and Akyol did not specifically teach that if there is no connection request from the new device, return to step d. when no change to the master mode is determined. However, it is obvious that the mastership of the master node is not affected when no new device, which might affect the mastership because of its priority, is requesting to connect with the master node. Official Notice is taken that it would have been obvious to maintain the structure of the group and the mastership of the master node when no additional node is joining the group. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ying, van der Tuijn, Akyol and further maintain the master mode when no change in the group structure is made.

30. As per claim 11, Ying, van der Tuijn and Akyol taught the invention substantially as claimed in claim 10. Ying further taught that the change of master mode is determined when a role of a device serving as the preexisting network master is changed to a role as one of the plurality of slaves (col.2, lines 37-39, col.3, lines 15-20, col.7, lines 39-49, col.9, lines 6-22, 43-48, col.10, lines 15-23, 36-43, 54-62, col.11, lines 1-9, 24-58). Ying, van der Tuijn and Akyol did not specifically teach that that change is caused by a user, when a Bluetooth function of the preexisting network master is switched off, or when power of the preexisting network master is turned off. However, it is obvious for a user to power off the master node to cause a change in master mode (e.g., forcing master disappearing). Official Notice is taken that it would have been obvious to have a user to manually switch the master mode in any desired circumstances. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ying, van der Tuijn, Akyol and further allows user to manually control the switching of mastership in Ying, van der Tuijn and Akyol's method when it is needed.

31. As per claim 12, Ying and van der Tuijn taught the invention substantially as claimed in claim 8. Ying further taught to check a connection status with the preexisting network master (col.2, lines 37-39, col.9, lines 6-22, col.10, lines 15-23, 54-65, col.11, lines 24-58) and determine whether the preexisting network master has disappeared (col.2, lines 48-51, col.7, lines 5-23, 35-49, col.10, lines 50-65). Ying and van der Tuijn did not specifically teach that step a. comprises the sub-steps of a2-a3. Akyol taught a backup master designating method to:

a2. attempting to reconnect with the preexisting network master if disconnection is detected in sub-step a1 (col.6, lines 60-67, col.7, lines 5-8, 21-35).

a3. checking whether reconnection with the preexisting network master is successful, and returning to the sub-step a1. if the reconnection with the preexisting network master is successful (col.7, lines 21-35).

32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ying, van der Tuijn and Akyol because Akyol's teaching of responding to requests for new devices to rejoin the group enables the devices in Ying and van der Tuijn's method to reconnect with the master node when connection is lost. Ying, van der Tuijn and Akyol did not specifically teach that if reconnection with the preexisting network master is not established in sub-step a3. informing a host of the event as a "Disconnection Complete Event". However, it is obvious to report error when attempting to connect with the master node fails. Official Notice that both the concept and advantage of sending notification to inform of errors is well known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Ying, van der Tuijn, Akyol and further uses event notification method to inform the hosts of failure in communication with the master node.

33. As per claim 13, Ying, van der Tuijn and Akyol taught the invention substantially as claimed in claim 12. Ying further taught that the sub-step a1 is repeated in a predetermined cycle while the connection with the preexisting network master remains (col.2, lines 37-39, col.10, lines 59-65).

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34. Applicant's arguments filed 5/16/2005 have been fully considered but they are not persuasive.

35. In the remark, applicant argued that (1) nowhere do the cited portions of Ying teach or suggest checking backup master rank information, when it is determined that the preexisting network master has disappeared.

36. Examiner traverse the argument:

37. As to point (1), Ying taught to provide priority in each slaves with designated wait period to determine the disappearance of the master, each with a different wait period length (e.g. backup master ranking). Upon a failure to receive signal from the master, the slave begin its wait mode and determines that the master has failed when the wait period elapses. Then the slave takes steps to become the backup master (col.7, lines 35-49). This clearly reads on the claim language of checking backup master rank information (e.g. each slaves' wait periods) when it is determined that the preexisting network master has disappeared (e.g. Upon a failure to receive signal from the master).

38. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

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39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Akyol et al, US 5,835,481.

40. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


41. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenny Lin whose telephone number is (571) 272-3968. The examiner can normally be reached on 8 AM to 5 PM Tue.-Fri. and every other Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ksl
July 25, 2005


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